

IN THE CLAIMS

1-15 (canceled)

16. (new) A thermoplastic polymeric material having high IR absorption comprising at least one inorganic metal phosphate of the general formula $\text{Me}_x(\text{PO}_4)_y(\text{OH})_z$, wherein Me consists of one or more elements from the group Cu, Fe, Mn, Sb, Zn, Ti, Ni, Co, V, Mg, Bi, Be, Al, Ce, Ba, Sr, Na, K, Ge, Ga, Ca, Cr, In or Sn, and wherein x and y are whole numbers and $x = (1 \dots 18)$, $y = (1 \dots 12)$ and $z = (0.2 \dots 10)$, and the inorganic metal phosphate may optionally also contain water of crystallisation.

17. (new) The thermoplastic polymeric material according to claim 16, comprising one or more plastic selected from the group consisting of polyesters, polyalkylenes, vinyl polymers, polyamides, polyacetals, polyacrylates, polycarbonates, polystyrenes, polyurethanes, acrylonitrile-butadiene-styrene copolymers (ABS), halogenated polyalkylenes, polyarylene oxides and polyarylene sulfides.

18. (new) The thermoplastic polymeric material according to claim 17, wherein said plastic is selected from the group consisting of polyethylene terephthalate (PET), polytrimethylene terephthalate (PTT), polybutylene terephthalate (PBT), polyethylene naphthalate (PEN), polyethylene (PE), Polypropylene (PP), polyvinyl chloride (PVC) and polymethyl methacrylate (PMMA).

19. (new) The thermoplastic polymeric material according to claim 16, wherein the following are satisfied for the general formula $\text{Me}_x(\text{PO}_4)_y(\text{OH})_z$: $x = (1 \dots 5)$, $y = (1 \dots 4)$ and $z = (0.2 \dots 5)$.

20. (new) The thermoplastic polymeric material according to claim 16, wherein the following said inorganic metal phosphate is selected from the group consisting of $\text{Cu}_2\text{PO}_4\text{OH}$, $\text{Cu}_3(\text{PO}_4)(\text{OH})_3$, $\text{Cu}_3(\text{PO}_4)(\text{OH})_3$, $\text{Cu}_5(\text{PO}_4)_2(\text{OH})_4$, $\text{CuFe}_2(\text{PO}_4)_2(\text{OH})_2$, $\text{Cu,Zn}_2\text{ZnPO}_4(\text{OH})_3 \cdot 2(\text{H}_2\text{O})$, $(\text{Cu,Zn})_5\text{Zn}(\text{PO}_4)_2(\text{OH})_6 \cdot (\text{H}_2\text{O})$, $\text{Cu}_3\text{Al}_4(\text{PO}_4)_3(\text{OH})_9 \cdot 4(\text{H}_2\text{O})$, $\text{CuAl}_3(\text{PO}_4)_4(\text{OH})_3 \cdot 4(\text{H}_2\text{O})$, $(\text{Zn,Cu})\text{Al}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4(\text{H}_2\text{O})$, $\text{CuFe}_6(\text{PO}_4)_4(\text{OH})_8 \cdot 4(\text{H}_2\text{O})$, $\text{CaCu}_6[(\text{PO}_4)_2(\text{PO}_3\text{OH})(\text{OH})_6] \cdot 3(\text{H}_2\text{O})$ and $\text{Cu}_2\text{Mg}_2(\text{PO}_4)_2(\text{OH})_2 \cdot 5(\text{H}_2\text{O})$.

21. (new) The thermoplastic polymeric material according to claim 16, wherein the amount of inorganic metal phosphates added is from 0.0002 to 2 wt.%, expressed in terms of the final thermoplastic polymeric material.
22. (new) The thermoplastic polymeric material according to claim 16, wherein the amount of inorganic metal phosphates added is from 0.001 to 0.1 wt.%, expressed in terms of the final thermoplastic polymeric material.
23. (new) The thermoplastic polymeric material according to claim 16, wherein the inorganic metal phosphate has Scherrer crystallite sizes of from 0.005 to 5 μm .
24. (new) The thermoplastic polymeric material according to claim 16, wherein the inorganic metal phosphate has Scherrer crystallite sizes of from 0.001 to 2 μm .
25. (new) A method for the preparation of thermoplastic polymeric materials with high IR absorption, containing at least one inorganic metal phosphate of the general formula $\text{Me}_x(\text{PO}_4)_y(\text{OH})_z$, wherein a solution of the relevant metal ion, or the relevant metal ions, and a solution of the relevant PO_4 component in an aqueous medium are precipitated, the product obtained is dried and incorporated into a thermoplastic polymeric material.
26. (new) A method according to claim 25, wherein corresponding solutions of the sulfates, chlorides, nitrates, hydroxides or oxides are used as the metal ion solution.
27. (new) A method according to claim 25, wherein phosphoric acid or solutions of its soluble salts are used as the solution for the PO_4 component.
28. (new) A method according to claim 25, wherein the precipitation products are hydrothermally treated and/or heat treated in the dry state in order to form the desired metal phosphate.

29. (new) A method comprising softening a thermoplastic polymeric material according to claim 16 by heating with IR radiation and subsequently subjected to further processing to shape them.

30. (new) A method of producing a preform comprising a thermoplastic polymeric material of claim 16 but heating with IR radiation and subsequently processing to form a consumer article and packaging.